STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

FLORIDA POWER AND LIGHT COMPANY TURKEY POINT POWER PLANT UNITS 3-5 MODIFICATION TO CONDITIONS OF CERTIFICATION	DOAH Case No.: 15-1559EPP OGC Case No.: 14-0510 License No. PA03-45E

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INTERVENOR- DEFENDANT ATLANTIC CIVIL'S , INC. PROPOSED RECOMMENDED ORDER

Pursuant to Rule 28-106.215, F.A.C., and the Administrative Law Judge's instructions at the final hearing, Intervenor-Defendant Atlantic Civil, Inc., hereby file their Proposed Recommended Order.

Respectfully submitted this 23rd day of December, 2015.

Respectfully submitted, this
23rd day of December 2015.

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CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing has been furnished via electronic mail on this 23rd day of December, 2015 to:

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FLORIDA POWER AND LIGHT COMPANY TURKEY POINT POWER PLANT UNITS 3-5 MODIFICATION TO CONDITIONS OF CERTIFICATION	DOAH Case No.: 15-1559EPP OGC Case No.: 14-0510 License No. PA03-45E

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INTERVENOR ATLANTIC CIVIL, INC.'S PROPOSED RECOMMENDED ORDER

Pursuant to notice, the Final Certification Hearing in this case was held by Bram Canter, the assigned Administrative Law Judge ("ALJ") of the Division of Administrative Hearings ("DOAH"), on December 1-4, 2015, in Miami. The hearing was opened to public testimony on those dates as well.

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STATEMENT OF THE ISSUES

There are two issues to be resolved in this proceeding: (1) whether the Governor and Cabinet, sitting as the Siting Board, should approve Florida Power & Light Company's ("FPL") application to modify Site License PA03-45 certifying the construction and operation of six wells and withdrawing 14 million gallons per day ("MGD") of water from the Upper Floridan Aquifer ("UFA") and discharging it into the Cooling Canal System ("CCS") at FPL's Turkey Point Power Plant ("Turkey Point") to manage temperature and salinity in the CCS; and (2) whether additional conditions should be placed in the Site License to address the impact of FPL's use in order to protect groundwater resources and surrounding property owners, as well as to remediate existing and future harm from the operation of Turkey Point and the CCS as contemplated in the Uprate Conditions of Certification.

PRELIMINARY STATEMENT

On September 5, 2014, FPL submitted a request to the Department of Environmental Protection ("DEP") to modify the Conditions of Certification under the Power Plant Siting Act (the "Act") for Turkey Point Power Units 3, 4 and 5 pursuant to Section 403.516 (1)(c), Fla. Stat.

On December 23, 2014, DEP noticed its Intent to Modify the Conditions of Certification to Site License PA03-45 certifying the construction and operation of six wells to withdraw 14 MGD of water from the UFA and to discharge it into the CCS to manage salinity and temperature in the CCS ("Modification"), as well as other modifications not at issue in this proceeding. J-3. On January 7, 2015, DEP published public notice of its intent to approve the Modification. FPL-44.

On or about February 6, 2015, DEP received three separate sets of written objections to DEP's proposed approval of the Modification. The written objections were filed on behalf of: (1) Atlantic Civil, Inc. ("ACI"); (2) Miami-Dade County; and (3) Tropical Audubon Society, Blair Butterfield, Charles Monroe, and Jeffrey Mullins.

On March 11, 2015, FPL initiated this proceeding by filing a Petition for Modification of Certification and Expedited Administrative Proceedings pursuant to Section 403.516(1)(c), Fla. Stat., and Rule 62-17.211(1)(b), F.A.C.

On March 19, 2015, DEP issued a partial Final Order Modifying the Conditions of Certification to PA03-45 that are not at issue in this proceeding. J-1. Also on March 19, 2015, DEP referred the remaining conditions at issue to DOAH for resolution.

On March 24, 2015, ACI filed a Motion to Intervene in DOAH case number 15-1559EPP. ACI's Motion to Intervene was denied without prejudice on April 1, 2015. On April 3, 2015, ACI filed an Amended Motion to Intervene, which was granted by the undersigned on April 13, 2015. Based upon further discovery, ACI filed a Second Motion to Intervene on October 30, 2015, which was granted by the undersigned on November 13, 2015.

During the course of the final hearing, Joint Exhibits J-1 – J-6 were admitted into evidence.[1]

[1] Citations to Joint Exhibits will be "J" followed by the Joint Exhibit number and the page number as indicated by the bates numbering on the bottom right-hand side of each page. For example "J-1, p. 4" indicates Joint Exhibit 1 at page 4. Citation to Exhibits will be the party's name, followed by the Exhibit number and the page number as indicated by

FPL presented the testimony of Steven Scroggs, accepted as an expert in power plant engineering, design, and siting; and Peter Anderson, P.E., accepted as an expert in groundwater hydrology, and groundwater flow and transport modeling. FPL Exhibits FPL 1-6, 12-23, 29-31, 33-35, 37-42, 44, 46, 48, 54-59, and 61 were admitted into evidence.

DEP presented the testimony of Anne Seiler, Justin Green, and Philip Coram. Mr. Coram was accepted as an expert in environmental engineering. DEP Exhibits DEP 23 and 28 were admitted into evidence.

The South Florida Water Management District ("District") presented the testimony of Simon Sunderland, Section Leader for Lower East Permitting and Compliance, and Jefferson Giddings, accepted as an expert in groundwater modeling. District Exhibits SF 1, 2, 10, and 13 were admitted into evidence.

ACI presented the testimony of: Stefano Torcise, Marc Harris, and William Nuttle, Ph.D., accepted as an expert in water and salt budget analysis; Stephen Krupa, Section Leader for Water Supply at the District, accepted as an expert in hydrology and geology; Eliezer Wexler, accepted as an expert in groundwater hydrology and groundwater transport modeling; and Edward Swakon, P.E., accepted as an expert in groundwater resources and groundwater monitoring. ACI Exhibits ACI 9-11, 14-16, 18, 24-26, 28, 35-36, 38-39, 42, 48-50, 50a, 52, 57, 63, and 65 were admitted into evidence. The six-volume transcript of the final hearing was filed with DOAH.[2] The parties filed proposed recommended orders that were considered in the preparation of this Recommended Order.

FINDINGS OF FACT

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the bates numbering on the bottom right-hand side of each page. For example "ACI-50, p. 2" indicates ACI Exhibit 50 at page 2.

[2] Citations to the hearing transcript will be "T" followed by the volume number, page number and line number. For example, "T1-100:15" indicates hearing transcript volume 1, page 100, line 15.

The Parties

1. ACI is a Florida corporation with its principal place of business in Miami, Florida. ACI owns 2,598 acres of land four miles due west of the Turkey Point and the CCS. ACI has used its property for agriculture and limestone mining for decades and continues to do so. T4-502:6 - 503:21; Prhrg. Stip. ¶ 46.

2. The Biscayne Aquifer is the sole source of fresh water for the ACI Property. ACI withdraws and uses fresh water from the Biscayne Aquifer pursuant to District Water Use Permit Nos. 13-03608-W and 13-03796-W. ACI-10; ACI-11; Prhrg. Stip. ¶ 47.

3. DEP issued ACI a Life-of-the-Mine Environmental Resource Permit for mining activities. Under this permit, if any groundwater monitoring well profile, mine pit profile, or monitoring well sample shows an exceedance of salinity (measured as a specific conductivity threshold of 1.07 mS/cm (150 mg/L chloride)) ACI must immediately notify DEP. If the groundwater monitoring data shows that chloride concentrations greater than 250 mg/L are occurring within the mine pit, DEP's permit prohibits ACI from continuing to mine on its property. ACI-9; Prhrg. Stip. ¶ 47.

4. DEP is the state agency authorized under § 403.516, Fla. Stat., to modify the Site License for Turkey Point Units 3-5 under the Act.

5. FPL is a regulated public utility that owns and operates Turkey Point. Prhrg. Stip. ¶1, 4.

Background

Turkey Point and the CCS

6. The Biscayne Aquifer is a highly permeable, wedge-shaped aquifer formation that thins as it moves landward (west). The Biscayne Aquifer is principally composed of limestone,

sandstone, and sand with very high hydraulic conductivities exceeding 10,000 feet per day. J-5, p. 40. The Biscayne Aquifer is the main source of potable water in Miami-Dade County, J-5, p. 40, and is designated by the federal government as a sole source aquifer under the Safe Drinking Water Act. T3-347:16-17.

7. The CCS occupies 5,900 acres, is approximately five miles long by two miles wide, and is bounded by Biscayne Bay to the east. T1-40:6-7; J-2, p. 6; Prhrg. Stip. ¶ 6 The CCS canals are unlined; thus, the CCS has a direct groundwater connection with the Biscayne Aquifer. J-5, p. 40.

8. The CCS provides the basic heat removal capacity for Turkey Point Units 1, 3, and 4 and receives approximately 5 MGD of cooling tower blowdown water from Unit 5. T1-40:10-14; T2-186:17-24; Prhrg. Stip. ¶ 6. The CCS also serves as the Ultimate Heat Sink under the Nuclear Regulatory Commission License for Nuclear Units 3 & 4, T1:93, and is used by existing units for wastewater treatment. J-2, p. 6.

9. Large pumps force water through heat exchangers in the power plants and discharge heated water into the northwest portion of the CCS. The water then circulates south through a series of feeder canals on the western side of the CCS towards a collector canal at the southern end. The water is then driven east and forced back to the northeastern corner of the CCS through return canals, where it is pumped back into the power plants and reused as cooling water. T1-40:18 – 41:4; J-5, p. 28. The feeder and return canals are between one and three feet deep with the exception of the westernmost return canal, which is 18 feet deep. J-5, p. 28.

10. By design, the water stages in the CCS are not level. The northwest portion of the CCS is elevated two feet above sea level, while the southern and eastern portions of the CCS are slightly below sea level. This water level or "head difference" is the driving mechanism that forces

cooling water to circulate through the CCS. T5-686:9-15; J-5, p. 473.

11. Typically, it takes 48 hours for water to circulate through the system. The circulation of the water through the CCS reduces the water temperature by 10 to 15 degrees Fahrenheit. T1-41:5-15.

The NPDES/IW Permit and DEP Groundwater Standards

12. The CCS historically operated under a combined National Pollutant Discharge Elimination System ("NPDES") permit and Industrial Wastewater ("IW") permit. DEP last issued an NPDES/IW permit to FPL for the CCS in 2005. The permit expired in 2010, but has been administratively extended since that time. T3-323:18-25; J-4.

13. The NPDES/IW permit authorizes FPL to discharge into G-III[3] groundwater through the CCS. J-4, p. 2, 4. The NPDES/IW established a Zone of Discharge[4] for the CCS, which corresponds with the area of the Biscayne Aquifer directly beneath the CCS that was reclassified from G-II to G-III in 1983. J-4, p. 24-25. This Zone of Discharge is reflected in District documents as the redline drawn around the CCS and labeled FPL G-III Groundwater Designation. SF-10, p. 2, 3. Alternatively, a Zone of Discharge extending no further than FPL's property line at the L-31E canal is imposed on the CCS by Rule 62-520.465(1), F.A.C. T3-318:10-14; T3-328:12-29:11; ACI-48.

14. Due to their age, the CCS canals are considered existing facilities and are exempt from secondary groundwater standards that apply in G-II aquifers. T3-318:10-13. However, the CCS must meet applicable primary standards outside of its Zone of Discharge. T3-330:19 – 331:8.

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[3] DEP Rule 62-520.410(1), F.A.C. set classifications for groundwater. Generally, Class G-III groundwater is non-potable and Class G-II is potable.

[4]. The term "Zone of Discharge" is defined as "a volume underlying or surrounding the site and extending to the base of a specifically designated aquifer or aquifers, within which an opportunity for the treatment, mixture or dispersion of wastes into receiving groundwater is afforded." Rule 62-520.200(27), F.A.C.

Sodium is a primary groundwater standard. Rule 62-550.828, Table 1, F.A.C.

15. The CCS must also comply with DEP's minimum groundwater criteria established in Rule 62.520.400, F.A.C. both inside and outside of its Zone of Discharge. T3-330:4-18. Under DEP's minimum criteria in Rule 62-520.400, F.A.C., the groundwater must be "free from" discharges from the CCS that impair the reasonable and beneficial uses of adjacent waters or constitute a nuisance. T3-360:4-361:2.

16. A violation of any groundwater standard or criterion contained in Ch. 62-520 constitutes pollution. Rule 62-520.310(1), F.A.C.

17. However, the NPDES/IW permit does not require a groundwater monitoring plan to determine the impacts of the discharge into groundwater, nor compliance wells at the boundary of the Zone of Discharge. T3-334:6-24; J-4, p. 7.

The Uprate of Units 3 and 4 and the 2009 Monitoring Plan

18. Construction of nuclear Units 3 and 4 predate the Act. In 2008, the Siting Board certified the "Uprate" of Units 3 and 4, bringing them under the Act and certifying them under Site License PA03-45. Under the Uprate, Units 3 and 4 were modified to increase their combined power generation capacity by 14%, from 1,400 mgwtz to 1,608 mgwtz. T1-39:20 – 40:3; ACI-14, p. 6-7.

19. Although outside the certified site boundary, the CCS is an integral component of the power plant and is an associated facility under the Site License. See § 403.503(7); J-2, p. 6.[5]

20. In the Uprate Final Order, the Siting Board found that makeup water for the CCS comes from rain, stormwater run-off, and seepage from Biscayne Bay that replaces evaporative losses. The Uprate Final Order acknowledged that prior to increasing the CCS water temperature

[5] "Associated facilities" includes onsite and offsite facilities that directly support the operation of the electrical power plant.

and salinity, water in the CCS already exhibited elevated salinity levels (approximately twice that of Biscayne Bay) due to evaporation of heated water leaving the power plants. ACI-14, p. 11; J-5, p. 472.

21. FPL repeatedly stated in its Uprate Application that no additional CCS makeup water would be necessary as a result of the Uprate. J-5, p. 54, 119, 122.

22. The Uprate Final Order found that the increased electrical generation from Units 3 and 4 would increase CCS water temperature by 2.5 degrees Fahrenheit. This increase in temperature within the CCS from the Uprate was predicted to increase CCS salinity by up to 3.6 parts per thousand. These changes, in part, were required to be monitored in the Conditions of Certification (Condition X). J-5, p. 145, 147; ACI-14, p. 11.

23. It is clear that salinity and seepage impacts from the CCS have been a concern for government agencies since the CCS's construction in the 1970's. J-5, p. 212-225. By the time of the Uprate, the impact of the CCS on the Biscayne Aquifer had become a serious concern for DEP, the District, and Miami-Dade County. T3-394:10 – 18; ACI-57. Salinity levels in the CCS, which had fluctuated between 32 PSU and 52 PSU in the early 1990s, had steadily risen from 48 PSU to 62 PSU by the time of the Uprate. FPL-48.[6] At the same time, DEP and the District had documented that continuous CCS discharges into groundwater had created a plume of saline and hypersaline CCS water in the Biscayne Aquifer. ACI-57, p. 2.

24. DEP, the District, and Miami-Dade County agreed to Condition X to the Site License. Condition X.B.1 recognizes the existence of the CCS groundwater plume and directed the creation of a Monitoring Plan to delineate the vertical and horizontal extent of the plume.

[6] FPL-48 stopped documenting monthly average salinities in January 2013 prior to the completion of Uprating both Units 3 & 4 in June 2013. T1-82:14 - 83:2. Mr. Scroggs testified that after the Uprate salinity levels during certain periods of 2014 and 2015 reached levels as high as 95 PSU. T1-82:24 – 83:25.

Condition X required the District and FPL to enter into an updated agreement (the Fifth Supplemental Agreement) to implement this Monitoring Plan. ("2009 Monitoring Plan") In the event that monitoring revealed that the CCS plume was causing harm to the water resources, Condition X.D directed that corrective measures be taken. ACI-14, p. 53-54; J-3, p. 29-31; J-1, p. 29-31.

25. The Uprate also directed that all pre-existing permits issued in conjunction with the CCS be incorporated into the Site License and that such permits and approvals are "***fully enforceable by both the permitting agency and as Conditions of Certification for Units 3 & 4.***" (Emphasis added). ACI-14, p. 20. This directive ultimately became Condition XI of the Conditions of Certification, entitled "Cooling Canals," and incorporated the NPDES/IW Permit. J-3, p. 31; J-1, p. 31.

Documentation of the CCS Groundwater Plume

26. Under the 2009 Monitoring Plan, the District established tritium as a tracer to differentiate salt water originating from the CCS from other salt water in the aquifer to determine the contribution of CCS water to saltwater intrusion in the aquifer. T3-372:11-14; SF-10, p. 5.

27. Tritium is a radioactive substance that naturally occurs in low levels in groundwater. However, the CCS exhibits very high concentrations of tritium. T5-542:13 – 543:1. The District determined that concentrations of tritium in groundwater samples exceeding 20 piC/L positively identified saline groundwater as having originated from the CCS, essentially creating a "fingerprint" for CCS water in the aquifer. T3-372:19 – 373:1; T5-543:10-21; T6-774:22-777:4; ACI-25, p. 607; ACI-51; SF-10, p. 5. The higher the tritium concentrations, the greater the contribution of CCS water in the aquifer at a given sampling location. T3-372:19 – 373:6; T5-542:1-12; T5-544:33 – 545:1.

28. For the purposes of these findings of fact, the most relevant groundwater monitoring wells include: TPGW-5 (approximately three miles west of the CCS); G-21 and G-28 (each just under five miles west of the CCS along 137th Street a/k/a Tallahassee Road); and TPGW-7 (almost 5 miles west of the CCS). ACI-48. TPGW-7 is less than one quarter mile east of ACI's property. T4-504:6-12; T6-752:7-12; ACI-48.

29. In 2012, FPL reported that up to 46% of the saline groundwater (based on chloride and tritium) sampled from TPGW-5D originated from the CCS. ACI-25, p. 637-638. These same calculations to determine the percentage of CCS water in each monitoring well were not provided in the Post-Uprate reports for comparison between pre-and post-Uprate conditions in the groundwater. See e.g. ACI-50.

30. FPL also reported hypersaline CCS water near the base of the Biscayne Aquifer at monitoring wells G-21 and G-28 and determined that, as of 2012, hypersaline CCS water had migrated at least four miles to the west in the aquifer since the CCS has been in operation. T2-241:15-17; T3-373:7-13; ACI-25, p. 608, 639; SF-10, p. 8.

31. The CCS plume is also expanding to the northwest and is approaching public water supply well fields. SF-10, p. 8. CCS water containing elevated tritium levels (up to 10 times the 20 pCi/L threshold) and elevated salinity is documented just west of the Homestead speedway, which is less than a mile from the Newton public water supply well field. T6-735:19 – 738:21; SF-10, p. 8.

32. In late 2013, well TPGW-7 (which has always been fresh water) began to show signs of salt water intrusion. ACI-49. Salinity and total dissolved solids ("TDS") have rapidly increased in TPGW-7 as a result of saline water being pushed westward by the CCS.[7] T6-778:20

[7] In 2013 and 2014, the TDS levels measured at TPGW-7 at the deep monitoring horizon were less than 10,000 mg/L,

– 779:12; ACI-49.

33. The Biscayne Aquifer historically has been classified as a G-II (potable) aquifer. The principal distinction between Class G-II and G-III groundwater is the amount of TDS present. Class G-II is considered potable with less than 10,000 TDS. Class G-III groundwater is non-potable and has greater than 10,000 TDS. Rule 62-520.410(1), F.A.C.; T3-359:5-14.[8]

34. Historically, the boundary between G-II and G-III in the Biscayne Aquifer was located just west of the CCS's interceptor ditch at depth. ACI-57, p. 1. In 1983, FPL successfully petitioned the Department of Environmental Regulation ("DER") to reclassify the Biscayne Aquifer directly beneath the CCS from G-II to G-III because groundwater quality under the CCS had deteriorated. T3-347:2-8, T3-351:15-25; J-4, p. 24-25.

35. No other reclassification by petition or by specific rulemaking has ever occurred regarding any portions of the Biscayne Aquifer to the west of the L-31 canal. T3-329: 25 – 330: 3; T3-359:16-18.

36. However, the CCS plume has spread outward for miles into the Biscayne Aquifer beyond the formally reclassified G-III boundary and beyond the Zone of Discharge set by permit and/or rule for the CCS. SF-13, p. 8; ACI-50a.

37. Monitoring well G-21, which has been fresh since 1975, turned salty in or around 2001. T6-752:13-753:4. Since that time, groundwater at G-21 (at a depth of 58 feet) has turned from Class G-II potable water in the year 2000 to almost 10,000 mg/L TDS in 2012. ACI-25, p. 263. By the June 2013 sampling event, G-21 contained TDS levels of 12,000 mg/L, which renders the groundwater at that location non-potable and changed the previous location of the G-II/G-III

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indicating Class G-II groundwater, but sodium levels at TPGW-7 now exceed 160 mg/L, which violates DEP's primary groundwater standard for sodium ACI-50, p. 27. TPGW-7 is no longer potable. ACI-49. T6-778:20-779:12.

[8] Salinity and TDS have been used interchangeably by the witnesses in this hearing since salt makes up about 90% of the dissolved solids in seawater.T2-209:10-211:2.

boundary. ACI-50, p. 30. Therefore the G-II/G-III boundary is now west of G-21.

38. In 2009, DEP documented the sodium levels in well G-21 (at a depth of 58 feet) at 1,640 mg/L, which is more than 10 times the primary groundwater standard for sodium. ACI-57. By 2012, sodium levels in well G-21 had increased to 2,800 mg/L. ACI-25, p. 263.

39. In 2009, monitoring well G-28 (at the 58 foot depth) contained sodium levels of 6,750 mg/L or 40 times the primary groundwater standard. ACI-57. Sodium levels increased to 7,800 mg/L by 2012.[9] ACI-25 p. 263.

40. Sodium is a primary groundwater standard. The CCS is not authorized to cause a violation of primary standards outside its Zone of Discharge. T3-330:19 – 331:8. Monitoring wells G-21 and G-28 are located more than a mile from the edge of FPL's property boundary and, therefore, are outside of the Zone of Discharge for the CCS. ACI-48. FPL has been causing violations of the primary standard for sodium in Class G-II potable groundwater west of the CCS and the NPDES/IW permit since as early as 2009. T3-373:7-24; T3-394:10-18; ACI-57, p. 1.

41. Rule 62-620.300(4), F.A.C., the "general prohibitions" for groundwater, states that "no person shall discharge into waters any waste which, by itself or in combination with the wastes of other sources, reduces the quality of the receiving waters below the classification established for them." DEP has concluded that the CCS is the driving force that is causing the interface between G-II and G-III groundwater to move inland. T3-345:4-5; 361:16-25.

42. The tritium tracer identifying CCS water conservatively demonstrates that a plume approximately 25 square miles in size (containing tritium concentrations more than 10 times the 20 piC/L threshold) has formed in the Biscayne Aquifer. T6-775:5-25; ACI-50a.

43. In 2009, before the NPDES/IW permit for the CCS expired, FPL filed a renewal

[9] Other wells west of the CCS (BBCW-4, BBCW-5, FKS-4) showed sodium levels as high as 17,200 mg/L, more than 100 times the primary standard. ACI-57; ACI-48.

application. T3-392:14-18. At that time, the District advised DEP that it believed the CCS plume was a violation of FPL's NPDES/IW permit. T3-394:10-18.

44. In October 2009, the Department asked its Southeast District Office to review FPL's NPDES permit renewal application. ACI-57. In response to this request, Tim Powell, DEP Southeast District Wastewater Permitting Supervisor, reported multiple exceedances by FPL of DEP's groundwater standards, including sodium – a primary groundwater standard. T3-395:1 – 398:1; ACI-57, p. 1.[10]

45. As a result, DEP is unable to re-issue FPL's NPDES/IW Permit until the CCS's groundwater impacts outside the Zone of Discharge are resolved. T3-325:6-22, 393:22 – 394:18; ACI-57.

The CCS is Causing Saltwater Intrusion in the Area

46. ACI presented the testimony of Mr. Wexler, who prepared a three-dimensional groundwater model of the area. Unlike modeling analyses presented by FPL and the District, Mr. Wexler accounted for all possible factors that could influence saltwater intrusion in the area, including the District's canal system, permitted water withdrawals, mining activities, land uses, and atmospheric conditions such as recharge and evaporation over a 60 year period. T5-677:15 – 679:11; ACI-36, p. 4-16. Mr. Wexler demonstrated that the operation of the CCS is the cause of the westward movement of the saltwater/freshwater interface and the G-II/G-III boundary in the Biscayne Aquifer. T5-682:3 – 683:1; ACI-51.

47. While other influences exist in the area, they are positive influences that serve to combat saltwater intrusion. T5-679:11-14. No other sources are significantly contributing to the

[10] Mr. Powell reported that data collected by the District in February and March 2009 showed that hypersaline water from the CCS caused exceedances of primary and secondary groundwater standards in the Biscayne Aquifer. ACI-57, p. 1.

westward movement of the saltwater/freshwater interface. T5-679:6-11. FPL and DEP offered testimony that "other factors" were at play in combination with the CCS to cause saltwater intrusion, but this testimony consisted of nothing more than generalized observation unsupported by any analysis, study, or data. T2-235:25 – 238:4; T3-383:5 – 385:4. Mr. Wexler's analysis and testimony are unrefuted.[11] In fact, FPL's own data on the extent of the plume and the District's modeling comparing the current situation to a hypothetical in which the CCS had never become hypersaline (Model Run SR_SFWMD_SEA) demonstrate and corroborate that the CCS is the cause of saltwater intrusion in the area. SF-13, p. 27, Figure 17; SF-10, p. 25; ACI-50a.

DEP's Administrative Order

48. DEP determined that the CCS and its plume are harming groundwater of the state. T3-341:13-18, T3-363:16-19. Seepage from the CCS and the expanding groundwater plume continuously contaminates an ever-increasing area of the Biscayne Aquifer, steadily converting Class G-II potable water to Class G-III non-potable water, making less fresh water available for the environment and other legal uses. T3-341:13-18; T3-361:16 – 363:16-25; ACI-25, p. 712; ACI-26, p. 477; ACI-49; ACI-51.

49. DEP determined that the spreading CCS plume was unacceptable and must be addressed by an Administrative Order that DEP claims will address this harm both historically and going forward. T3-366:4-19.[12]

50. DEP has characterized the Administrative Order as an enforcement order enforcing the terms of its Site License because DEP determined that the CCS was causing harm or potential harm to the water resources of the State in violation of Condition X. T3-366:4-19. The

[11] Mr. Wexler presented a "with and without" analysis. All other influences were held equal in the two scenarios, which showed that saltwater intrusion in the Biscayne Aquifer is located several miles further inland due to the operation of the CCS. T5-681:2 – 683:1; ACI-51.

[12] In Case No. 15-1744, ACI disputes the reasonableness of the success criteria in DEP's Administrative Order.

Administrative Order was necessary to provide reasonable assurances to enable DEP to re-issue the expired NPDES/IW Permit for the CCS, a permit which is enforceable as part of the site License pursuant to Condition XI. T3-325:6-22; T3-393:22 – 394:18; ACI-57.

FPL's Salinity Reduction Proposal

51. In June 2013, FPL submitted a proposed concept to DEP and the District to manage salinity in the CCS. FPL proposed to add 14 MGD of water from the UFA to dilute CCS water and lower salinity in the CCS. T2-127:1 – 129:2; T4-481:8-16; J-6.

52. In support of its concept, FPL submitted two related models - a water and salt balance model and a two-dimensional ("2-D") groundwater model. T2-123:12-23; T1-131:1-14; FPL-20; J-6.

53. A technical review of both models was conducted by the District and its consultants, described as a "proof of concept" review. T4-451:7 – 452:4, T4-475:7-14; T4-481:11-16; SF-10; SF-13.

FPL's Water and Salt Balance Model

54. The 2009 Monitoring Plan required development of a water and salt budget to evaluate the CCS and to understand the different physical relationships governing the interactions of the CCS with the environment. T2-181:15-19, T2-184:11-15; ACI- 14, p. 53; ACI-25 p. 612-627, p. 640-686; ACI-26, p. 368-468.

55. The water and salt budget is an accounting of the changes in the mass of water and salt into and out of the CCS. T5-567:4-11. All of the inputs and outputs in the water and salt budget are calculated values. T2-184:16 – 185:1.

56. Out of the five input sources into the CCS, seepage of saltwater from Biscayne Bay is the largest inflow of salt mass into the CCS. T2-185:5 – 187:4. Salinity levels of the CCS water

do not affect the rate of seepage inflow of saltwater into CCS from Biscayne Bay. Water levels do. T2-183:14-19; T2-187:10-22.

57. Evaporation is the single largest outflow of water from the CCS, averaging 40 MGD of water loss. As evaporation increases, the salt left behind in the CCS also increases. T2-188:1-11.

58. Salt cannot leave the CCS through evaporation. The only outflow of salt from the CCS is by seepage out of the CCS into the Biscayne Aquifer. T2-211:17 – 212:8.

59. The greatest rate of seepage from the CCS into the Biscayne Aquifer occurs in the northwest portion of the CCS due to the higher head or water levels in the canals at that location. T2-189:2-8; T2- 197:11-20.

60. The District hired Dr. Nuttle as a consultant in 2009 to assist in the developing a water and salt budget and to answer specific questions that the District posed regarding the budget. T5-555:6-21; T5-565:11-566:9.

61. Dr. Nuttle's review of FPL's water and salt budget in 2013 was not conducted in a permitting context, was based on very preliminary data, and merely stated that 14 MGD was "the right order of magnitude." In other words, the quantity of water required to lower salinity in the CCS to 35 PSU could be anywhere from 5 MGD to 50 MGD. T5-570:19 – 574:10; SF-13, p. 44. In 2013, Dr. Nuttle recommended more detailed calculations to fully describe the seepage loading to the Biscayne Aquifer. SF-13, p. 44, 47; T5-577:11 – 583:3. Dr. Nuttle expressed serious reservations about using FPL's water and salt budget as a predictive tool due to a number of missing significant factors that make the water and salt budget inadequate in representing the physical dynamics within the CCS. T5-576:12 – 577:10.

Effect of Power Plant Operations on the CCS

62. The most important consideration missing from the water and salt budget model is the effect of power plant operations on the CCS. T5-577:5 – 581:14. Dr. Nuttle testified that the manner in which the power plants are operated, particularly in their post-Uprate condition, significantly impacts conditions in the CCS, but is not evaluated or directly accounted for in any iteration of FPL's water and salt budget. T5-577:11 – 583:3. In 2015, the District asked Dr. Nuttle to investigate the effects of power plant operations on conditions in the CCS. ACI-52; T5-583:4 – 584:18.

63. Dr. Nuttle provided a report to the District in 2015, advising that there was a strong relationship between the level of power generation at the power plants and the amount of evaporation and seepage, and consequently, salinity in the CCS. T5-555:22 – 556:11; ACI-52, p. 2, 4-5, 13-14.

64. The manner in which the power plant operates has two primary effects on the CCS. First, an increase in power generation increases heat loading into the CCS. ACI-52, p. 2, 4-5, 13-14. Increased heat load increases evaporation which, in turn, both concentrates salt within the CCS and lowers CCS water levels. T5-591:2 – 595:15; ACI-52, p. 4-5; ACI-65, p. 2. Lower water levels increase seepage of saltwater from Biscayne Bay into the CCS, which adds salt mass to the system and concentrates it. ACI-52, p. 2-3; ACI-65, p. 1-2.

65. Second, the pumps discharge of heated water into the CCS drives both the circulation of water through the CCS and the circulation of water between the CCS and the aquifer. T5-577:11-23. Therefore, changes in pumping rates have a significant effect on seepage from the CCS into the aquifer. T5-578:1-5.

66. Dr. Nuttle advised the District of a direct relationship between power plant operations and evaporation and salinity in the CCS. Following the Uprate, evaporation in the CCS

increased by 35% during peak power generating months. T5-587:6-11; ACI-52, p. 2; ACI-65, p. 1-2. During these same periods, saltwater seepage from Biscayne Bay into the CCS doubled. T5-587:15-25; ACI-65. Dr. Nuttle advised the District that nearly all of the salinity increases in the CCS in recent years occurred during these high power generation periods. T5-588:1 – 589:4; ACI-52, p. 2-3.[13]

67. Dr. Nuttle subsequently performed additional analysis for ACI and established a direct causal relationship between increased power generation at Turkey Point and increased evaporation, seepage, and salinity. T5-593:24 – 594:23; ACI-65, p. 3-4. Dr. Nuttle's analyses are unrebutted.

Two-Dimensional Groundwater Models

68. FPL also submitted a 2-D "proof of concept" groundwater model in support of its 14 MGD concept. FPL-11. FPL's 2-D model does not evaluate any effects upon groundwater movement resulting from wellfields, the District's canal system (except for the L-31E canal),or other potential influencing factors. T2-235:8-238:17.

69. The groundwater model depends upon certain inputs derived from FPL's water and salt budget model. T2-219:4 – 222:17; J-2, p. 50-56.

70. The District reviewed the FPL 2-D model and prepared a "corrected" model. SF-13. Mr. Giddings testified that his review in 2013 was a review of a "proof of concept" and was not conducted in connection with any permit application. T4-475:3-17; T4-481:4 – 482-7. No further modeling analysis by the District was ever conducted in support of the Modification. T4-449 – 450.

[13] Mr. Scroggs testified that the maximum potential power "capacity" of Turkey Point was lowered by 4% due to the retirement of Unit 2. However, this does not equate to ***actual*** power output. Nuclear Units 3 and 4 are run at 100% capacity at all times, but fossil fuel units 1 and 2 are only run to augment the nuclear units during high demand periods. T1-54:4-10; 74:18-75:5; 75:15-20.

71. Both FPL's and SFWMD's models indicate that, under FPL's proposal to add 14 MGD to the CCS (assuming a constant salinity of 34 PSU is maintained in the CCS), the saltwater interface continues to push west into Class G-II potable water, albeit at a reduced rate, and that the saltwater interface overruns ACI's property and the Newton public water supply well field. SF-13, p. 25-26; T4-493:14 – 496:25.

The Modification

72. The District conducted the primary review of the Modification for reasonable assurance that non-procedural requirements of Chapter 373, Fla. Stat. and implementing rules would be met. The District's review was conducted by Mr. Sunderland. T4-407:5-16.

73. DEP relied upon the District's technical review and performed only a limited internal review of Mr. Giddings' 2013 proof of concept review. T3-340:23 – 341:5.

Impacts of the Modification and Alterations to CCS Operations

74. It is undisputed that the Modification will have adverse impacts to the Biscayne Aquifer. Mr. Krupa testified that the CCS discharges an average daily salt mass of about 3,000,000 pounds of salt into the Biscayne Aquifer through seepage. T5-554:21 – 555:2. Mr. Krupa further testified that this salt loading of the aquifer by the CCS will continue under the Modification, just accompanied by a greater volume of seepage water. T5-552:9 – 553:13.

75. Adding 14 MGD of water equates to a yearly introduction of 5.1 billion gallons into the CCS. T-552:9 – 445:13. The total volume of the CCS ranges between three and six billion gallons depending upon how the plant is operating. T-553:14-24. FPL proposes to introduce enough water to fully replace all the water in the CCS on an annual basis. Id. Thus, FPL's characterization of 14 MGD as a "test tube in a bathtub" is misleading. T2-199:22-24.

76. Introduction of 14 MGD will raise average water levels in the CCS between 0.10 and 0.25 feet.

T2-214:15 – 215:4. Introduction of this water will also increase the amount of seepage of CCS water into the Aquifer to 15.7 MGD on average. T2-226: 4-6; T3-365:12-18; T5-553:25 – 554:12.

77. The Modification proposes to add the 14 MGD through six wells that are placed in the northwest corner of the CCS – the location where water levels are already the highest and seepage from the CCS into the aquifer is already the greatest. J-2, p. 10, FPL-54, p. 35-41; T2-194:18 – 196:9. The estimate of 0.10 to 0.25 feet of stage increase is an average over the entire 5,900 acre CCS. T2-231:11-12. It is reasonable to infer that CCS water level increases and seepage into the aquifer resulting from the modification will be greater at this location where the water is being added.

78. Additionally, FPL has taken a host of other actions that alter the approved operations of the CCS under the existing Conditions of Certification. These other actions include dredging the canal bottoms, the addition of approximately 30 MGD of L-31E water into the canals, the addition of 30 MGD of marine water (aka salt water) into the canals, and the construction of slurry walls up to 30 feet deep in certain areas of the CCS. T1-60:2-16; T1-100:15-24; T6-767:16-769:1. Dredging of the canals actually increases the connection to the Biscayne Aquifer, thereby increasing the seepage. T1-100:5-14. None of these additional actions have been cumulatively evaluated with the 14 MGD proposed by the Modification. T6-769:2-5. It is reasonable to infer that all of these action will further add to the seepage and salt loading from the CCS into the Biscayne Aquifer.

79. Through a combination of increased CCS water levels and increased CCS seepage, Mr. Anderson, Mr. Giddings, and Mr. Wexler all testified that the CCS seepage water will sink toward the bottom of the aquifer directly beneath the CCS. T2-255:23 – 245:1; T4-457:4-14; T5-

667:11-15. However, the center of the CCS hypersaline plume currently resides in the limestone of the aquifer beneath the CCS. T4-456:23 – 457:1. The increased seepage, carrying the CCS salt mass, must go somewhere. T5-666:15 – 667:4. Because the CCS seepage is less dense, it will rest on top of the denser CCS plume and displace it. T2-264:2-19; T5-666:1-8.

80. Both Giddings and Wexler testified that the increased volume of less dense CCS seepage will press downward and displace the existing CCS plume, essentially cutting the plume in half. T4-457:15-23; T5-667:1 – 668:11. Half of the plume will be forced to the east, and half will be forced to the west. T4-457:2-23, 458:12-18; T5-666:15 – 668:11; T5 – 709:15-25. Eventually, the CCS water will form a hydraulic barrier to the east reinforced by the increased water levels of the CCS and the increased seepage into the Aquifer. T4-494:21 – 495:12.[14]

81. Both Giddings and Wexler testified that the existing plume of CCS water to the west will no longer be able to escape to the east. The western half of the plume will be trapped to the west where it will be forced outward from the CCS into the Biscayne Aquifer. T4-494:2 – 495:12' T5-709:15-25.

82. Although the Modification will result in lower salinity in the CCS and beneath the CCS (precisely the success criteria set by DEP in its Administrative Order), this result is reached by creating two groundwater plumes on either side of the CCS. Id.

83. The models presented by FPL, the District, and ACI all show, to differing degrees, that under the Modification the CCS plume will move west, and the corresponding interface of the G-II and G-III aquifer and the freshwater/saltwater interface will move with it. All three models show that saltwater will intrude onto the ACI property in the 10-year timeframe shown by Mr. Wexler and the 25 year timeframe shown by Mr. Giddings and Mr. Anderson. SF-13, p. 24, Fig.

[14] This bifurcation and displacement of the CCS plume is illustrated in Mr. Giddings 2013 Report in the figures on pages 39-40. SF-13, p. 39-40.

13, p. 27, Fig. 17; FPL-46, p. 15; ACI-49.

84. Mr. Coram testified on behalf of DEP that the movement of the G-II/G-III boundary as a result of the CCS operation harms the water resources, and agreed this could be a violation of the minimum groundwater criteria that prohibits FPL from impairing the reasonable beneficial use of adjacent waters under Rule 62-520.400, F.A.C. T3-361:16 – 363:25. Every expert's analysis shows that additional Class G-II potable water will be converted to Class G-III non-potable water under the Modification. SF-13, p. 24, Fig. 13, p. 27, Fig. 17; FPL-46, p. 15; ACI-49.

Evaluation of the Modification's Impacts Against a "No Action" Scenario

85. The impact of the Modification on the Biscayne Aquifer and on ACI is all but uncontested. What is contested is whether the impact is "adverse" or "beneficial" because it is simply "better than doing nothing." T3-366:21-24.

86. The so-called "no action" scenario is an existing condition that DEP already felt compelled to address through an Administrative Order that it characterized as enforcement of the Conditions of Certification. T3-366:4-19.

87. Similarly, the "no action" scenario was considered so unacceptable that DEP was unable to re-issue FPL's NPDES/IW permit – a permit that is expressly incorporated into and enforceable as a Condition of Certification to the Site License. T3-325:6-22, 393:22 – 394:18. The Modification results in the same type of impact that prevented DEP from reissuing the NPDES/IW permit in 2010.

88. The impacts of the Modification cannot be validly measured against a condition that DEP has already found unacceptable. The Modification will have the exact same impact as the unacceptable "no action" condition, it just will occur somewhat more slowly. Mr. Coram conceded that the Modification is only reducing one driving force behind the westward movement

of CCS water (density) and replacing it with other forces (increased water levels and increased seepage of CCS water into the aquifer). T3-364:24 – 365:18. All the models submitted by the parties showed that this westward advance of saltwater from the CCS will continue for decades. SF-13, p. 24, Fig. 13, p. 27, Fig. 17; FPL-46, p. 15; ACI-49.

89. The impact to ACI and other users of the Biscayne Aquifer is unacceptable under either scenario. The only difference is that the "no action" scenario is unsanctioned and subject to enforcement, whereas the Modification and its attendant adverse impacts would be sanctioned by FPL's Site License.

District Review Under Rule 40E-2.301(1)(a),(b),(d), and (f), F.A.C..

90. The District admitted that its evaluation under Rule 40E-2.301(1)(a),(b),(d), and (f), F.A.C., was limited to evaluating impacts from the withdrawal of the water from the UFA. T4-430:25 – 431:8. 432:12-17.

91. Under Rule 40E-2.301(a), F.A.C., (whether the proposed water use will cause harmful saline water intrusion), the District only evaluated whether the ***withdrawal*** of water from the UFA would cause harmful saline water intrusion in the UFA. Despite knowledge of the CCS plume and concern over saltwater intrusion in the Biscayne Aquifer, the District did not evaluate whether the proposed ***use*** of the water by discharging it into the CCS would cause harmful saline water intrusion in the Biscayne Aquifer. T4-424:3-19, 431:9 – 432:6. FPL has not provided reasonable assurances under Rule 40E-2.301(a), F.A.C., by a preponderance of the evidence.

92. Under Rule 40E-2.301(b), F.A.C., (whether the proposed water use will cause harm to offsite land uses), the District evaluated whether the ***withdrawal*** of water from the UFA would cause harm to offsite land uses, but did not evaluate whether the proposed ***use*** of the water by discharging it into the CCS would harm offsite land uses. T4-432:7-11. FPL has not provided

reasonable assurances under Rule 40E-2.301(b), F.A.C., by a preponderance of the evidence.

93. Under Rule 40E-2.301(d), F.A.C., (whether the proposed water use will cause pollution of the water resources), the District evaluated whether the ***withdrawal*** of the water from the UFA would cause pollution of the water resources, but did not evaluate whether the proposed ***use*** of the water by discharging it into the CCS would cause pollution of the water resources. T4-412:25 – 413:16 – 432:18-24.

94. Mr. Sunderland, was unaware that the CCS serves as an industrial wastewater facility for Turkey Point or that industrial pollutants are discharged into the CCS. Mr. Sunderland did not consider any seepage of pollutants into the Biscayne Aquifer as a result of the use of water under the Modification. T4-425:18 – 427:.6; J-4. FPL has not provided reasonable assurances under Rule 40E-2.301(d), F.A.C., by a preponderance of the evidence.

95. Under Rule 40E-2.301(f), F.A.C., (whether the proposed water use will interfere with presently existing legal uses), the District evaluated whether the ***withdrawal*** of water from the UFA would interfere with presently existing legal uses, but did not evaluate whether the proposed ***use*** of the water by discharging it into the CCS would interfere with presently existing legal uses. Mr. Sunderland was not even familiar with the existing legal uses of water in the Biscayne Aquifer that could be impacted. T4-423:14 – 424:2.

96. ACI maintains an existing, offsite land use of FDOT-grade limestone and beach sand mining that will be adversely impacted by the Modification. ACI also is a presently existing legal user of the Biscayne Aquifer. ACI-9; ACI-10; ACI-11; T4-505:3 – 506:13. ACI cannot operate its mining or agricultural businesses in the event of saltwater intrusion. T4-505:11 – 506:7. The impact of the Modification on these existing legal uses of the Biscayne Aquifer was not evaluated by the District. T4-432:7-11, 423:14 – 424:2. FPL has not provided reasonable

assurances under Rule 40E-2.301(f), F.A.C., by a preponderance of the evidence.

District Review Under Rule 40E-2.301(1)(j), F.A.C.

97. Rule 40E-2.301(1)(j), F.A.C., requires permit applicants to provide reasonable assurances that the proposed water use is consistent with the public interest and policies governing the use of water. Mr. Sunderland generally believed that the use of the water to reduce the salinity in the CCS water was a "first step" to solving the "problem in the area." No evaluation of the public interest or the policies in §373.016, Fla. Stat.[15], was conducted on what the actual impacts upon the existing CCS groundwater plume in the Biscayne Aquifer would be as a result of the modification, other than Mr. Giddings' "proof of concept" review of the FPL concept performed a year earlier. T4-417:21-418:6. FPL has not provided reasonable assurances under Rule 40E-2.301(1)(j), F.A.C., by a preponderance of the evidence.

District Review of the "Reasonable-Beneficial Use" Criteria

98. The term "reasonable-beneficial use" is defined in §373.019(16), Fla. Stat., as "the use of water in such quantity as is necessary for economic and efficient utilization for a purpose and in a manner which is both reasonable and consistent with the public interest."

99. Rule 40E-2.301(1)(e), F.A.C., requires permit applicants to provide reasonable assurances that proposed water use is a "reasonable-beneficial use ... with consideration given to factors set forth in Rule 62-40.410, F.A.C."

100. Mr. Sunderland considered the discharge of water into the CCS to be a reasonable-beneficial use solely on the basis that the discharge would reduce salinity within the CCS to 35

[15] Relevant provisions of § 373.016, Fla. Stat., include: (2) The department and the governing board shall take into account cumulative impacts on water resources and manage those resources in a manner to ensure their sustainability; (3) It is further declared to be the policy of the Legislature: (b) To promote the conservation, replenishment, recapture, enhancement, development, and proper utilization of surface and groundwater; (d) To promote the availability of sufficient water for all existing and future reasonable-beneficial uses and natural systems; (g) To preserve natural resources, fish, and wildlife; and (j) Otherwise to promote the health, safety, and general welfare of the people of this state.

PSU. Mr. Sunderland's analysis of the reasonable-beneficial use for the modification application did not extend beyond looking at a single graph of predicted CCS salinities after the addition of 14 MGD, which was included in the application materials. T4-440:17- 443:4; J-2, p. 56.

101. When pressed on how the District considered the factors in 62-40.410, F.A.C., as required by 40E-2.301(1)(e), F.A.C. Mr. Sunderland admitted he was "not totally familiar" with the rule or what it requires. T4-443:19- 444:5.

102. Rule 62-40.410, F.A.C., states that the criteria "shall apply when the use of water is regulated" and that "[n]o permit shall be granted to authorize the use of water unless the applicant establishes that the proposed use is a reasonable-beneficial use, will not interfere with presently existing uses of water, and is consistent with the public interest." Rule 62-40.410(2), F.A.C., lists a series of factors that clearly distinguish between withdrawal and use of the water[16] and which must be considered in determining whether a water use is a reasonable-beneficial use.

103. Rule 62-40.410(2)(a), F.A.C., requires consideration of "the quantity of water requested for the use." Mr. Sunderland completely relied on the fact that a water and salt budget had previously been submitted by FPL and had been reviewed, but he wasn't sure by whom.T4-442:19 – 443:15.

104. Under the plain terms of the Modification, the addition of 14 MGD to the CCS is authorized to continue indefinitely. T4-436:8-17; T4-438:13-22; J-3. p. 34-35. The Modification places no conditions on the amount of water added seasonally or the actual conditions within the CCS. The Modification sets no salinity targets and does not condition the addition of water to amounts needed to reach any particular target.

105. Rule 62-40.410(2)(b), F.A.C. requires consideration of demonstrated need for the

[16] Some of the factors speak to the withdrawal of the water while other factors expressly discuss the use of the water.

water use. Mr. Scroggs testified that FPL needed the Modification to return the CCS back to equilibrium following what he characterized as a "unique series of events." T1-87:12-17. Mr. Scroggs also testified that the water was needed as "stabilizing" water for the CCS to prevent power interruptions. However, the Modification is not conditioned as a solution to the short-term problem described by Mr. Scroggs. The addition of water is for an unlimited duration. The Modification contains no limits on additions of water related to CCS salinity, drought, or CCS temperature. T1-64:10- 65:11.

106. Rule 62-40.410(2)(e), F.A.C., requires consideration of the extent and amount of harm caused by the use of the water. The District did not evaluate the actual extent and amount of harm caused by discharging 14 MGD into the CCS. It was simply considered an improvement over doing nothing. T3-366:21-24.

107. Rule 62-40.410(2)(f), F.A.C., requires consideration of the practicality of mitigating harm by adjusting the quantity or method of use. No other method or quantity of use was considered. The UFA wells will introduce the water into the northwest portion of the CCS, which from the standpoint of increasing seepage into the aquifer, is the worst possible location. No consideration was given to mitigating CCS seepage by introducing less water, periodically introducing water based on salinity or temperature triggers, or introducing water at another location within the CCS with lower water levels.

108. The Modification completely ignores the presence of the CCS groundwater plume and the undisputed effect that increased water levels and increased seepage from the CCS will have upon the plume. The District, FPL, and DEP all concede that the Modification will result in the displacement and spread of the known, documented contaminant plume further west. All parties further concede that ACI's property will be harmed by the saltwater intrusion authorized

by the Modification.

109. Rule 62-40.410(2)(m), F.A.C., requires consideration of the extent of water quality degradation caused as a result of the water use. The District did not evaluate or consider the extent of water quality degradation caused by adding water into the CCS. After the Modification, the CCS plume will be forced west and will push the saltwater interface inland. The result will be an estimated contamination of an additional 855,000 gallons of potable water in the Biscayne Aquifer each day for the next 30 years. T6-792:2-3.

110. Rule 62-40.410(2)(o), F.A.C., requires consideration of whether the proposed use would significantly increase or induce saltwater intrusion. It is undisputed that the Modification merely reduces one driving head (density) while increasing others (CCS stages and seepage).

111. To the extent the District claims the 2-D model constitutes evaluation of impacts to the Biscayne Aquifer, the plain language of Rule 40E-2.301, F.A.C., states that "in order to obtain a permit, permit renewal, or permit modification under this chapter, ***an applicant must give reasonable assurances ... at the time the permit application is deemed complete***" (emphasis added). The application was deemed complete and approved by both the District and DEP under the Act in late 2014 without the benefit of Mr. Giddings' 2-D model review. J-3; T4-439:19 – 440:16.

112. Even if the District claims the 2-D model and Giddings testimony constituted reasonable assurances, the District's own model demonstrates that ACI's land use and existing legal use of the Biscayne Aquifer will be directly and adversely impacted under the Modification. SF-10, p. 24-25; SF-13, p. 27-28, 34.

CONCLUSIONS OF LAW

113. The Division of Administrative Hearings has jurisdiction over the subject matter

and the parties pursuant to § 120.57(1), Fla. Stat.

Standing

114. In order to have standing to participate as a party, a person must have substantial rights or interests that reasonably could be affected by the agency's action. See St. Johns Riverkeeper, Inc. v. St. Johns River Water Mgmt. Dist., 54 So. 3d 1051 (Fla. 5th DCA 2011) (citing Palm Beach Co. Env'l Coalition v. Florida Dept. of Env'l Protection, 14 So. 3d 1076 (Fla. 4th DCA 2009)).

115. Regarding ACI's standing to intervene in this matter, the undersigned previously addressed this issue in granting ACI's second amended motion to intervene:

> FPL focuses on ACI's former claim that the proposed modification would exacerbate the saltwater intrusion problem, but ACI's amended motion to intervene now focuses on the imminent harm caused by the operation of the power plant and the failure of the proposed modification to eliminate the harm. ***The Siting Board has authority to determine under what conditions the certified facility will be operated. The proposed modification is directly related to ACI's alleged harm. ACI's allegations are sufficient to establish its standing in this modification proceeding to request that the Siting Board impose conditions that will prevent the harm.***

Order, dated Nov. 13, 2015, Case No. 15-1559EPP (emphasis added).

116. The evidence shows that ACI owns property and has a legal right to use water resources and to conduct validly permitted mining operations, both of which will be substantially affected by the Modification, which not only fails to eliminate the harm caused by the continued migration of CCS water westward onto ACI's property, but creates a driving force (slightly increased CCS stages and increased CCS groundwater seepage) that results in the same type of harm to ACI as the current "no action" condition, just at a slightly reduced rate.

The Modification Violates the Non-Procedural Requirements of the District

117. The Modification Violates § 373.223, Fla. Stat., and Rule 62-40.410(1), F.A.C., because FPL has failed to establish that the proposed use of the Floridan Aquifer water will not

interfere with ACI and other existing legal users of the Biscayne Aquifer, or that the use is consistent with the public interest.

118. The Modification violates Rule 62-40.410(2), F.A.C., because FPL has not established that it needs the quantity of water requested for its proposed use.

119. The District neglected to evaluate the extent and amount of harm that would be caused by the use of the water (Rule 62-40.410(2)(a), (b), (e), (m), (o), (q), and (r), F.A.C.), limiting its review to only the impact of withdrawing the water. The District cannot limit its review of consumptive water uses to merely the impacts associated with the withdrawing the water, without evaluating of the impacts of how the water is to be used. Section 373.219(1), Fla. Stat., gives the District the authority over the consumption of water and allows it to impose reasonable conditions over how the water is used. *Sw. Fla. Water Mgmt. Dist. v. Charlotte Cnty.*, 774 So. 2d 903, 920 (Fla. 2d DCA 2001). The word "water" in the term "consumptive use of water" in section 373.219(1)[17] refers to water in its consumptive state – water that has already been harnessed for consumption. *Id.*

120. The District's interpretation that "proposed use" is limited to the "proposed withdrawal" does not limit the scope of review required for the end use of the water under §373.223(1), Fla. Stat., under Rules 40E-2.301(1) (e) and (j), F.A.C., and under Rule 62-40.410, F.A.C.

121. The commentary to the Model Water Code, which formed the basis for Ch. 373, Fla. Stat., also makes the clear distinction between water withdrawal and water use when determining a reasonable-beneficial use,

[17] § 373.219(1) states the governing board or the department may require such permits for consumptive use of water and may impose such reasonable conditions as are necessary to assure that such use is consistent with the overall objectives of the district or department and is not harmful to the water resources of the area.

> Under the code's reasonable-beneficial use standard, the manner in which water is diverted must also be reasonable and consistent with the public interest.... This part of the standard would apply to some aspect of the manner of operation, such as the place of diversion, manner of impoundment, or method of disposal (including danger of pollution), as opposed to the purpose of the entire operation itself.

Maloney, et al., *A Model Water Code*, Commentary at p. 172 (1972).

122. The public interest inquiry in Rule 40E-2.301(1)(j) also includes impact of the proposed use of the water on water resources when considering the public interest. *Marion Cnty. v. Green,* 5 So. 3d 775 (Fla. 5th DCA 2009). Matters such as impacts to natural resources, degradation of water resources and prevention of pollution are within the scope of the public interest evaluation. *City of Groveland v. St. Johns River Water Mgmt. Dist.,* Final Order DOAH Case No. 08-4201 Fla. Div. Adm. Hearings, LEXIS 1446 (September 25, 2009).

123. It is clear that Units 3 and 4 are impacting the CCS, and it is equally clear that the condition of the CCS impacts the operation of Units 3 and 4. Failure to fully understand this relationship completely undermines the water and salt budget, which in turn drives all of the groundwater models. FPL has failed to provide reasonable assurance that the Modification will not cause extensive harm to the Biscayne Aquifer.

124. Contrary to Rule 62-40.410(4) and (5), F.A.C., DEP and the District have failed to recognize the rights of public and private property owners adjacent to the CCS plume by authorizing continuing and expanding pollution of potable waters within the Biscayne Aquifer and refusing to prevent the undisputed adverse impact of the CCS and the Modification through any specific Conditions of Certification.

The Modification Violates the Act.

125. Under the Act,

> (3) In determining whether an application should be approved in whole, approved with modifications or conditions, or denied, the board, or secretary when

applicable, shall consider whether, and the extent to which, the location, construction, and operation of the electrical power plant will:

(a) Provide reasonable assurance that operational safeguards are technically sufficient for the public welfare and protection.

(b) Comply with applicable nonprocedural requirements of agencies.

* * *

(e) Effect a reasonable balance between the need for the facility as established pursuant to s. 403.519 and the impacts upon air and water quality, fish and wildlife, water resources, and other natural resources of the state resulting from the construction and operation of the facility.

(f) Minimize, through the use of reasonable and available methods, the adverse effects on human health, the environment, and the ecology of the land and its wildlife and the ecology of state waters and their aquatic life.

(g) Serve and protect the broad interests of the public.

§ 403.509(3), Fla. Stat.

126. Contrary to § 403.509(3)(a), Fla. Stat., the Modification contains no safeguards to protect the public from the westward migrating saline plume that results from adding 14 MGD to the CCS.

127. DEP, FPL, and the District's characterization of the Modification as an improvement over the so-called "no action" scenario is fundamentally flawed. The "no action" scenario is a condition that warranted enforcement action against FPL by DEP. Similarly, the "no action" scenario prevented DEP from reissuing FPL's NPDES/IW permit, a permit that is incorporated into and enforceable as a condition to the Site License under Condition XI. The Modification results in the same type of harm to the water resources that precipitated these two actions – just at a slightly reduced rate or degree.

128. Mr. Coram conceded that causing movement of the G-II/G-III boundary could be a violation of DEP's minimum groundwater criteria in Rule 62-520.400, F.A.C., by interfering with reasonable beneficial uses of water adjacent to the CCS, if the CCS was the cause. The undisputed

evidence shows that this interference is occurring, that the CCS is the cause, and that this interference will continuously spread the existing pollution (at a somewhat reduced rate) by the Modification for the next 30 years.

129. The movement of the G-II/G-III boundary itself is a violation of DEP's groundwater standards. Rule 62-620.300(4), F.A.C., the "general prohibitions" for groundwater, states that "No person shall discharge into waters any waste which, by itself or in combination with the wastes of other sources, reduces the quality of the receiving waters below the classification established for them." The CCS is disposing of hypersaline water and is moving the G-II/G-III boundary. FPL is degrading the water to a lower groundwater classification by its discharge. DEP cannot apply the lesser G-III water quality standards to FPL where FPL's own discharge is the cause of the groundwater quality degrading to G-III in the first place. The Modification implicitly authorizes this same type of harm and perpetuates the continued degradation of groundwater without any conditions to prevent either.

130. An agency must honor its own rules. *Decarion v. Martinez,* 537 So. 2d 1083 (Fla. 1st DCA 19889); *Gadsden State Bank v. Lewis,* 348 So. 2d 343 (Fla. 1st DCA 1977). Agency action must be consistent with the plain meaning of its rules. *See Colonnade Med. Ctr. Inc v. Agency for Health Case Admin.,* 847 So. 2d 540 (Fla. 4th DCA 2003). Agency action which conflicts with the agency's own rules is erroneous. *Vantage Healthcare Corp. v. Agency for Health Care Admin.,* 687 So. 2d 306, 308 (Fla. 1st DCA 1997); *Hospice of Naples, Inc. v. Agency for Health Care Admin.*, DOAH Case No. 06-4289, 2006 WL 3542816 (December 7, 2006).

131. Florida courts have consistently held that "[w]hile an agency's interpretation of its own rules should be afforded deference, 'judicial adherence to the agency's view is not demanded when it was contrary to the statute's [or rule's] plain meaning." *Collier Cnty. Bd. Of Cnty.*

Comm'rs v. Fish & Wildlife Conservation Comm'n, 993 So. 2d 69, 74 (Fla. 2d DCA 2008) *quoting Sullivan v. Fla. Dep't of Envtl. Prot.,* 890 So. 2d 417, 420 (Fla. 1st DCA 2004) (internal citation omitted0. Therefore, if the rule is clear on its face, not only is deference not given, no interpretation is permitted. *Id.*

132. The Modification fails to effect a reasonable balance between the need for the water (to reduce CCS salinity) and the negative effects of the continued as modified operation of the CCS on the groundwater resources of the State and their lawful users as is required in Section 403.509(3)(e). The Modification simply addresses FPL's need to moderate the temperature and salinity concerns ***within the CCS*** to make its power plant run more efficiently. It does not address the fact that the public will lose more than 850,000 gallons of this valuable potable water resource to CCS contamination each day for the next 30 years under the Modification. Moreover, the Modification contradicts and fails to comply with the clear intentions of the Siting Board in Condition X of the Site License and fails to prevent the documented harm to ACI and other existing users of the Biscayne Aquifer.

133. DEP, the District, and FPL have failed to minimize, through the use of reasonable and available methods, the adverse effects on human health, the environment, and the ecology of state waters as required in § 403.509(3)(f), Fla. Stat.

134. Finally, the Modification runs counter to the broad interests of the public that are to be served and protected under § 403.509(3)(g), Fla. Stat., as it perpetuates the pollution of the Biscayne Aquifer and continuing impairment of the reasonable and beneficial use of adjacent waters for decades.

135. FPL uprated Units 3 and 4, and in doing so, represented that the alterations to the power plant would have minimal effects upon the CCS and upon the groundwater resources.

According to FPL, no additional CCS makeup water was going to be needed, and changes in salinity and temperature in the CCS were going to be negligible. None of these representations have proven to be accurate. The power plants and their use of the CCS harm the water resources of the area and threaten nearby land uses and legal uses of water, specifically including ACI. The negative effects of the CCS in contaminating a 25 square-mile area of the Biscayne Aquifer are thoroughly documented by years of monitoring. The CCS is causing saltwater intrusion by forcing the G-II/G-III interface and the freshwater/saltwater interface to continuously push inland toward ACI. No other contributing factor is established. The operation of the facility, including the power plant and associated CCS, has resulted in the continuous contamination of the aquifer and the reduction of fresh water available to the environment and to legal existing users in the area for decades. The Uprate has worsened these conditions. The Modification does not remedy the established harm.

136. The Modification is viewed by FPL and the agencies as "beneficial," but only when compared to the status quo. In reality, the Modification perpetuates the continued contamination of the aquifer for decades. The Modification results in the saltwater intrusion of ACI's property and the interference with its longstanding land use and legal existing use of fresh water, and leads to a continuous loss of available fresh water in the aquifer. This is the very same negative impact that is deemed unacceptable by DEP and the District, just at a slightly reduced rate. The Modification contains no conditions to prevent this harm to the water resources or ACI as a result of adding 14 MGD of water to the CCS. Condition X of the Site License, which required the CCS groundwater plume to be monitored and addressed if harm is resulting, is ignored by the Modification. If authorized as currently conditioned, the Modification will perpetuate continuous harm to the environment and private property.

RECOMMENDATION

Based on the foregoing Findings of Fact and Conclusions of Law, it is

RECOMMENDED that the Siting Board issue a final order denying FPL's application for modification of Site License No. PA03-45E. Alternatively, it is recommended that the Siting Board impose specific conditions on the Modification that clearly require FPL to immediately institute measures to halt the westward advance of the saltwater intrusion caused by the CCS, to remediate the saltwater intrusion that has already occurred in the Biscayne Aquifer, and to eliminate the imminent harm to ACI as a result of the operation of Turkey Point and the CCS.

DONE AND ENTERED this ____ day of _____, ___, in Tallahassee, Leon County, FL

PROPOSED

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